NO AFS #
Bruce Augustine.

HG Energy II Appalachia, LLC.
5260 Dupont Road
Parkersburg, WV 26101
(304) 420-1100 – Office
(304) 863-3172 – Fax

November 25, 2019

UNITED POSTAL SERVICE

Director, Air Protection Division
EPA Region III
Mail Code 3AP00
1650 Arch Street
Philadelphia, PA 19103-2029

Subject: **HG Energy II Appalachia, LLC**
Moundsville 6 and Sand Hill 27 Well Sites
NSPS Subpart OOOOa Annual and Initial Reports

Dear Director,

HG Energy II Appalachia, LLC is hereby submitting the enclosed NSPS Subpart OOOOa Annual and Initial Reports for Moundsville 6 and Sand Hill 27 well sites in Franklin District, Marshall County, West Virginia, and Webster District, Marshall County, West Virginia, respectively, in accordance with 40 Code of Federal Regulations (CFR) §60.5420a(b). The initial annual report is due no later than 90 days after the end of the initial compliance period as determined according to 40 CFR §60.5410a. Subsequent annual reports will be due no later than the same date each year as the initial annual report.

The initial startup for Sand Hill 27 was September 20, 2018; therefore, the compliance period was from September 20, 2018, through September 20, 2019. This initial report is being submitted by December 19, 2019, which is 90 days after the end of the initial compliance period. The initial annual report for Moundsville 6 was submitted on December 21, 2018, for the compliance period of October 2, 2017, through October 2, 2018.

The Reports include applicable information of the items required under 40 CFR §60.5420a(b).

- General Information
- Well Information
- Centrifugal Compressor Information
- Reciprocating Compressor Information
- Pneumatic Controller Information
- Storage Vessel Information
- Fugitive Emissions Components Information
- Pneumatic Pump Information

- Performance Test Information
- Combustion Control Device Information
- Closed Vent System Certification

If you have any questions or concerns, please contact me at 304-420-1126 or mmcguire@hgenergyllc.com or Amanda Black at 724-387-6350 or ablack@cecinc.com, and we will provide any clarification or additional information.

Sincerely,

Matthew J. McGuire, P.G.
EHSR Director

Cc: West Virginia Department of Environmental Protection

MOUNDSVILLE 6 (MND 6) & SAND HILL 27 (SHL 27) WELL PADS
NSPS SUBPART OOOOa ANNUAL & INITIAL REPORT

Submitted By:

HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD
PARKERSBURG, WV 26101

Prepared By:

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
PITTSBURGH, PA

CEC Project 181-983

NOVEMBER 2019

Civil & Environmental Consultants, Inc.

Pittsburgh | 333 Baldwin Road | Pittsburgh, PA 15205 | p: 412-429-2324 f: 412-429-2114 | www.cecinc.com

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MOUNDSVILLE 6

SAND HILL 27

LIST OF ATTACHMENTS

MOUNDSVILLE 6

NSPS SUBPART OOOOa ANNUAL REPORT

1.0 GENERAL INFORMATION *[40 CFR 60.5420a(b)(1)]*	
Requirement	**Response**
Company Name [(b)(1)(i)]	HG Energy II Appalachia, LLC
Facility Site Name [(b)(1)(i)]	Moundsville 6 (MND 6)
US Well ID [(b)(1)(i)]	47-051-01732 47-051-01744 47-051-01745 47-051-01746 47-051-01761 47-051-01762 47-051-01763 47-051-01765
Location [(b)(1)(i)] • Address	1652 Fish Creek Road Proctor, WV 26055
If address not available:	
• Site Location Description	Not Applicable – See Address above
• Lat/Long Coordinates (NAD 1983)	Not Applicable – See Address above
Identification of each affected facility included in report [(b)(1)(ii)]	Fugitive Components at the Well Site
Reporting Period [(b)(1)(iii)] • Beginning Date • End Date	 October 2, 2018 October 2, 2019
Certification Statement [(b)(1)(iv)]	See **Attachment A**

2.0 WELL INFORMATION *[40 CFR 60.5420a(b)(2)]*	
Requirement	**Response**
	Not Applicable. No well completion operations during the compliance period.

3.0 CENTRIFUGAL COMPRESSOR *[40 CFR 60.5420a(b)(3)]*	
Requirement	**Response**
	Not Applicable. No centrifugal compressors are located at this site.

4.0 RECIPROCATING COMPRESSOR *[40 CFR 60.5420a(b)(4)]*	
Requirement	**Response**
	Not Applicable. No reciprocating compressors are located at this site.

5.0 PNEUMATIC CONTROLLER *[40 CFR 60.5420a(b)(5)]*	
Requirement	**Response**
	Not Applicable. No applicable pneumatic controllers are located at this site.

6.0 STORAGE VESSEL *[40 CFR 60.5420a(b)(6)]*	
Requirement	**Response**
	Not Applicable. No applicable storage vessels are located at this site.

7.0 FUGITIVE EMISSIONS COMPONENTS

7.1 SURVEY 1 *[40 CFR 60.5420a(b)(7)]*	
Requirement	**Response**
• Date of Survey [(b)(7)(i)]	March 12, 2019
• Time of Survey [(b)(7)(ii)] o Start Time o End Time	 12:13 pm 1:25 pm
• Name of operator(s) performing survey. If using OGI, note the training and experience of the operator. [(b)(7)(iii)]	Steve LaRue: Certified OGI Thermographer by Infrared Training Center with four years of LDAR experience.
• Ambient temperature, sky conditions, and maximum wind speed [(b)(7)(iv)]	49°F; clear skies; 6 mph winds
• Monitoring instrument [(b)(7)(v)]	FLIR Infrared Camera Model GF320
• Any deviations from the monitoring plan [(b)(7)(vi)]	No

7.1 SURVEY 1 *[40 CFR 60.5420a(b)(7)]*	
Requirement	**Response**
• Number and type of components where fugitive emissions were detected [(b)(7)(vii)]	(1) One Level Controller Valve at GPU F (1) One Compression Fitting Connector at GPU C (1) One Thief Hatch Connection at Production Tank 1 (1) One Thief Hatch Connection at Production Tank 2 (1) One Thief Hatch Connection at Production Tank 3 (1) One Thief Hatch Connection at Production Tank 4 (1) One Weighted Hatch Connection at Production Tank 1 (1) One Weighted Hatch Connection at Production Tank 2 (1) One Weighted Hatch Connection at Production Tank 3 (1) One Weighted Hatch Connection at Production Tank 4
• Number and type of components that were not repaired [(b)(7)(viii)]	(4) Thief Hatch Connections at Production Tanks (4) Weighted Hatch Connections at Production Tanks
• Number and type of difficult-to-monitor and unsafe-to-monitor components monitored [(b)(7)(ix)]	(0) Zero
• Date of successful repair of components [(b)(7)(x)]	March 12, 2019; March 13, 2019
• Number and type of components placed on delay of repair and explanation for delay [(b)(7)(xi)]	(0) Zero
• Type of instrument used to resurvey repaired components that could not be repaired during initial finding [(b)(7)(xii)]	Soap bubble alternative screening method specified in section 8.3.3 of 40 CFR 60 Method 21

7.2 SURVEY 2 *[40 CFR 60.5420a(b)(7)]*	
Requirement	**Response**
• Date of Survey [(b)(7)(i)]	September 5, 2019
• Time of Survey [(b)(7)(ii)] ○ Start Time ○ End Time	 8:30 am 8:57 am

7.2 SURVEY 2 *[40 CFR 60.5420a(b)(7)]*	
Requirement	**Response**
• Name of operator(s) performing survey. If using OGI, note the training and experience of the operator. [(b)(7)(iii)]	Steve LaRue: Certified OGI Thermographer by Infrared Training Center with four years of LDAR experience.
• Ambient temperature, sky conditions, and maximum wind speed [(b)(7)(iv)]	60°F; clear skies; 0 mph winds
• Monitoring instrument [(b)(7)(v)]	FLIR Infrared Camera Model GF320
• Any deviations from the monitoring plan [(b)(7)(vi)]	No
• Number and type of components where fugitive emissions were detected [(b)(7)(vii)]	(1) One Weighted Hatch Connection at Production Tank 3
• Number and type of components that were not repaired [(b)(7)(viii)]	(1) One Weighted Hatch Connection at Production Tank 3
• Number and type of difficult-to-monitor and unsafe-to-monitor components monitored [(b)(7)(ix)]	(0) Zero
• Date of successful repair of components [(b)(7)(x)]	September 6, 2019
• Number and type of components placed on delay of repair and explanation for delay [(b)(7)(xi)]	(0) Zero
• Type of instrument used to resurvey repaired components that could not be repaired during initial finding [(b)(7)(xii)]	Soap bubble alternative screening method specified in section 8.3.3 of 40 CFR 60 Method 21

8.0 PNEUMATIC PUMP *[40 CFR 60.5420a(b)(8)]*	
Requirement	**Response**
	Not Applicable. No applicable pneumatic pumps are located at this site.

9.0 CLOSED VENT SYSTEM CERTIFICATION *[40 CFR 60.5420a(b)(12)]*	
Requirement	**Response**
	Not Applicable. No closed vent systems are located at this site.

SAND HILL 27

NSPS SUBPART OOOOa INITIAL REPORT

1.0 GENERAL INFORMATION *[40 CFR 60.5420a(b)(1)]*	
Requirement	**Response**
Company Name [(b)(1)(i)]	HG Energy II Appalachia, LLC
Facility Site Name [(b)(1)(i)]	Sand Hill 27 (SHL 27)
US Well ID [(b)(1)(i)]	47-051-01939-00-00 47-051-01958-00-00 47-051-01959-00-00
Location [(b)(1)(i)] • Address	310 Irish Ridge Road Cameron, WV 26033
If address not available:	
• Site Location Description	Not Applicable – See Address above
• Lat/Long Coordinates (NAD 1983)	Not Applicable – See Address above
Identification of each affected facility included in report [(b)(1)(ii)]	Well: SHL 27 EHS; Well: SHL 27 JHS; Well: SHL 27 LHS; and Fugitive Components at the Well Site
Reporting Period [(b)(1)(iii)] • Beginning Date • End Date	 September 20, 2018 September 20, 2019
Certification Statement [(b)(1)(iv)]	See **Attachment A**

2.0 WELL INFORMATION

2.1 SAND HILL 27 EHS *[40 CFR 60.5420a(b)(2)]*	
Requirement	**Response**
• Records identifying each well completion operation for each well affected facility. [(b)(2)(i)]	See **Attachment B**
• Records of deviations in cases where well completion operations with hydraulic fracturing were not performed in compliance with the requirements specified in §60.5375a. [(b)(2)(i) and (ii)]	Not Applicable. There were no deviations associated with well completion utilizing hydraulic fracturing from the standards of 60.5375a during the Reporting Period.
• Log of each well completion operation. [(b)(2)(i)]	See **Attachment B**
• Records if claiming Exception under 60.5375a(a)(3) – unable to route to a completion combustion device. [(b)(2)(i)]	See **Attachment B**
or	

2.1 SAND HILL 27 EHS *[40 CFR 60.5420a(b)(2)]*	
Requirement	**Response**
• If using Digital Photograph in lieu of the records required in 60.5420a(c)(1)(i)-(iv), retain records specified in 60.5410a(a)(4) [(b)(2)(i)]	Not Applicable
• Records if the Well is not subject to the Well Completion Standards according to 60.5375a(g) – Facility with less than 300 scf of gas per stock tank barrel of oil produced. [(b)(2)(i)]	Not Applicable
• Records that support a low pressure well determination including supporting inputs and calculations. [(b)(2)(iii)	Not Applicable

2.2 SAND HILL 27 JHS *[40 CFR 60.5420a(b)(2)]*	
Requirement	**Response**
• Records identifying each well completion operation for each well affected facility. [(b)(2)(i)]	See **Attachment B**
• Records of deviations in cases where well completion operations with hydraulic fracturing were not performed in compliance with the requirements specified in §60.5375a. [(b)(2)(i) and (ii)]	Not Applicable. There were no deviations associated with well completion utilizing hydraulic fracturing from the standards of 60.5375a during the Reporting Period.
• Log of each well completion operation. [(b)(2)(i)]	See **Attachment B**
• Records if claiming Exception under 60.5375a(a)(3) – unable to route to a completion combustion device. [(b)(2)(i)]	See **Attachment B**
or	
• If using Digital Photograph in lieu of the records required in 60.5420a(c)(1)(i)-(iv), retain records specified in 60.5410a(a)(4) [(b)(2)(i)]	Not Applicable
• Records if the Well is not subject to the Well Completion Standards according to 60.5375a(g) – Facility with less than 300 scf of gas per stock tank barrel of oil produced. [(b)(2)(i)]	Not Applicable

2.2 SAND HILL 27 JHS *[40 CFR 60.5420a(b)(2)]*	
Requirement	**Response**
• Records that support a low pressure well determination including supporting inputs and calculations. [(b)(2)(iii)	Not Applicable

2.3 SAND HILL 27 LHS *[40 CFR 60.5420a(b)(2)]*	
Requirement	**Response**
• Records identifying each well completion operation for each well affected facility. [(b)(2)(i)]	See **Attachment B**
• Records of deviations in cases where well completion operations with hydraulic fracturing were not performed in compliance with the requirements specified in §60.5375a. [(b)(2)(i) and (ii)]	Not Applicable. There were no deviations associated with well completion utilizing hydraulic fracturing from the standards of 60.5375a during the Reporting Period.
• Log of each well completion operation. [(b)(2)(i)]	See **Attachment B**
• Records if claiming Exception under 60.5375a(a)(3) – unable to route to a completion combustion device. [(b)(2)(i)]	See **Attachment B**
or	
• If using Digital Photograph in lieu of the records required in 60.5420a(c)(1)(i)-(iv), retain records specified in 60.5410a(a)(4) [(b)(2)(i)]	Not Applicable
• Records if the Well is not subject to the Well Completion Standards according to 60.5375a(g) – Facility with less than 300 scf of gas per stock tank barrel of oil produced. [(b)(2)(i)]	Not Applicable
• Records that support a low pressure well determination including supporting inputs and calculations. [(b)(2)(iii)	Not Applicable

3.0 CENTRIFUGAL COMPRESSOR *[40 CFR 60.5420a(b)(3)]*	
Requirement	**Response**
	Not Applicable. No centrifugal compressors are located at this site.

4.0 RECIPROCATING COMPRESSOR *[40 CFR 60.5420a(b)(4)]*	
Requirement	**Response**
	Not Applicable. No reciprocating compressors are located at this site.

5.0 PNEUMATIC CONTROLLER *[40 CFR 60.5420a(b)(5)]*	
Requirement	**Response**
	Not Applicable. No applicable pneumatic controllers are located at this site.

6.0 STORAGE VESSEL *[40 CFR 60.5420a(b)(6)]*	
Requirement	**Response**
	Not Applicable. No applicable storage vessels are located at this site.

7.0 FUGITIVE EMISSIONS COMPONENTS

7.1 SURVEY 1 *[40 CFR 60.5420a(b)(7)]*	
Requirement	**Response**
• Date of Survey [(b)(7)(i)]	December 20, 2018
• Time of Survey [(b)(7)(ii)] o Start Time o End Time	 2:00 pm 3:14 pm
• Name of operator(s) performing survey. If using OGI, note the training and experience of the operator. [(b)(7)(iii)]	Steve LaRue: Certified OGI Thermographer by Infrared Training Center with four years of LDAR experience.
• Ambient temperature, sky conditions, and maximum wind speed [(b)(7)(iv)]	52°F; cloudy skies; 7 mph winds
• Monitoring instrument [(b)(7)(v)]	FLIR Infrared Camera Model GF320
• Any deviations from the monitoring plan [(b)(7)(vi)]	No

7.1 SURVEY 1 *[40 CFR 60.5420a(b)(7)]*	
Requirement	**Response**
• Number and type of components where fugitive emissions were detected [(b)(7)(vii)]	(1) One Big Joe Valve at High Pressure Separator (1) One Plug Connection at GPU 3 Fuel Pot (1) One Compression Fitting Connection at High Pressure Separator (1) One Thief Hatch Connection at Production Tank 1 (1) One Thief Hatch Connection at Production Tank 2 (1) One Thief Hatch Connection at Production Tank 3 (1) One Weighted Hatch Connection at Production Tank 1 (1) One Weighted Hatch Connection at Production Tank 2 (1) One Weighted Hatch Connection at Production Tank 3
• Number and type of components that were not repaired [(b)(7)(viii)]	(1) One Big Joe Valve at High Pressure Separator (3) Three Thief Hatch Connections at Production Tanks (3) Three Weighted Hatch Connections at Production Tanks
• Number and type of difficult-to-monitor and unsafe-to-monitor components monitored [(b)(7)(ix)]	(0) Zero
• Date of successful repair of components [(b)(7)(x)]	December 20, 2018; December 27, 2018
• Number and type of components placed on delay of repair and explanation for delay [(b)(7)(xi)]	(0) Zero
• Type of instrument used to resurvey repaired components that could not be repaired during initial finding [(b)(7)(xii)]	Soap bubble alternative screening method specified in section 8.3.3 of 40 CFR 60 Method 21

7.2 SURVEY 2 *[40 CFR 60.5420a(b)(7)]*	
Requirement	**Response**
• Date of Survey [(b)(7)(i)]	May 1, 2019
• Time of Survey [(b)(7)(ii)] o Start Time o End Time	 11:15 pm 11:45 pm

7.2 SURVEY 2 *[40 CFR 60.5420a(b)(7)]*	
Requirement	**Response**
• Name of operator(s) performing survey. If using OGI, note the training and experience of the operator. [(b)(7)(iii)]	Steve LaRue: Certified OGI Thermographer by Infrared Training Center with four years of LDAR experience.
• Ambient temperature, sky conditions, and maximum wind speed [(b)(7)(iv)]	80°F; partly cloudy skies; 6 mph winds
• Monitoring instrument [(b)(7)(v)]	FLIR Infrared Camera Model GF320
• Any deviations from the monitoring plan [(b)(7)(vi)]	No
• Number and type of components where fugitive emissions were detected [(b)(7)(vii)]	(0) Zero
• Number and type of components that were not repaired [(b)(7)(viii)]	Not Applicable
• Number and type of difficult-to-monitor and unsafe-to-monitor components monitored [(b)(7)(ix)]	(0) Zero
• Date of successful repair of components [(b)(7)(x)]	Not Applicable
• Number and type of components placed on delay of repair and explanation for delay [(b)(7)(xi)]	Not Applicable
• Type of instrument used to resurvey repaired components that could not be repaired during initial finding [(b)(7)(xii)]	Not Applicable

8.0 PNEUMATIC PUMP *[40 CFR 60.5420a(b)(8)]*	
Requirement	**Response**
	Not Applicable. No applicable pneumatic pumps are located at this site.

9.0 CLOSED VENT SYSTEM CERTIFICATION *[40 CFR 60.5420a(b)(12)]*	
Requirement	**Response**
	Not Applicable. No closed vent systems are located at this site.

ATTACHMENT A

CERTIFICATION STATEMENT

40 CFR SUBPART OOOOa ANNUAL REPORT
CERTIFICATION STATEMENT

40 CFR 60.5420a(b)(1)(iv)

Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Mathew J. McGuire, P.G.

Printed Name

EHSR Director

Title

Signature

11/25/19

Date

ATTACHMENT B

WELL COMPLETION OPERATION LOGS

Civil & Environmental Consultants, Inc.

SUBJECT	Completion Operations - EHS	PROJECT NO.	181-983
PROJECT	HG Energy II Appalachia, LLC - Sand Hill 27	PAGE	1
	Marshall County, West Virginia		
MADE BY:	JM	DATE: 9/24/2019 CHECKED BY: AD	DATE: 10/30/2019

Well Name	SHL 27 EHS
API Well Number	47-051-01939-00-00
County and State	Marshall, WV
District	Webster
Well Location	39.958476, -80.585534
Reporting Period	September 20, 2018, - October 25, 2018
Date and Time of Flowback Onset	September 20, 2018; 4:45 PM
Date and Time of Each Attempt to Direct Flowback to a Separator	September 20, 2018; 10:00 PM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	September 22, 2018; 9:00 AM
Date and Time of Each Attempt to Direct Flowback to a Separator	September 22, 2018; 9:00 AM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	September 22, 2018; 10:00 PM
Date and Time of Each Attempt to Direct Flowback to a Separator	September 22, 2018; 10:00 PM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	September 25, 2018; 4:00 AM
Date and Time of Each Attempt to Direct Flowback to a Separator	September 25, 2018; 4:00 AM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	September 30, 2018; 8:00 AM
Date and Time of Each Attempt to Direct Flowback to a Separator	September 30, 2018; 8:00 AM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	October 2, 2018; 6:30 AM
Date and Time of Each Attempt to Direct Flowback to a Separator	October 2, 2018; 6:30 AM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	October 24, 2018; 1:25 PM
Date and Time of Each Attempt to Direct Flowback to a Separator	October 24, 2018; 1:25 PM
Date and Time Well was Shut in and Flowback Equipment Permanently Disconnected OR Date and Time of Startup of Production	October 25, 2018; 7:00 AM
Duration of Flowback (hr)	823.25
Duration of Recovery (hr)[2]	818.00
Type of Recovery[3]	Routed to the gas flow line
Description of Why All the Types of Recovery Are Technically Infeasible[4]	NA
If Recovery is Technically Infeasible and Exception[5] from Combustion Claimed	NA
Exception Claimed	NA
Start Date	NA
End Date	NA
Reason for exception	NA
Duration of Combustion (hr)	0
Duration of Venting (hr)	0
Reason for Venting in Lieu of Capture or Combustion	NA
Separator Located Onsite During Entire Flowback Period	Yes

Notes

[1] Initial Flowback is the period which begins at the onset of flowback and ends when it is technically feasible for a separator to function.

[2] Not required for wildcat well, delineation well, non-wildcat low pressure well, or non-delineation low pressure well.

[3] Types of recovery:
Routed to the gas flow line or collection system,
Re-injected into the well or another well,
Used as an onsite fuel source, or
Used for another useful purpose that a purchased fuel or raw material would serve.

[4] Examples of information to be included in description of recovery being technically infeasible:
Name and location of the nearest gathering line and technical considerations preventing routing to this line,
Capture, re-injection, and reuse technologies considered and aspects of gas or equipment preventing use as a fuel onsite, and
Technical considerations preventing use of recovered gas for other useful purpose that a purchased fuel or raw material would serve.

[5] Types of exceptions:
Conditions that may result in a fire hazard or explosion, or
Where high heat emissions may negatively impact tundra, permafrost, or waterways.

Civil & Environmental Consultants, Inc.

SUBJECT	Completion Operations - JHS	PROJECT NO.	181-983
PROJECT	HG Energy II Appalachia, LLC - Sand Hill 27	PAGE	2
	Marshall County, West Virginia		
MADE BY:	JM DATE: 9/24/2019 CHECKED BY: AD	DATE:	10/30/2019

Well Name	SHL 27 JHS
API Well Number	47-051-01958-00-00
County and State	Marshall, WV
District	Webster
Well Location	39.958255, -80.585764
Reporting Period	September 20, 2018, - October 25, 2018
Date and Time of Flowback Onset	September 20, 2018; 4:55 PM
Date and Time of Each Attempt to Direct Flowback to a Separator	September 21, 2018; 10:45 AM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	September 21, 2018; 1:00 PM
Date and Time of Each Attempt to Direct Flowback to a Separator	September 21, 2018; 1:00 PM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	September 25, 2018; 4:00 AM
Date and Time of Each Attempt to Direct Flowback to a Separator	September 25, 2018; 4:00 AM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	September 30, 2018; 8:00 AM
Date and Time of Each Attempt to Direct Flowback to a Separator	September 30, 2018; 8:00 AM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	October 2, 2018; 5:00 AM
Date and Time of Each Attempt to Direct Flowback to a Separator	October 2, 2018; 5:00 AM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	October 18, 2018; 12:25 PM
Date and Time of Each Attempt to Direct Flowback to a Separator	October 18, 2018; 12:25 PM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	October 23, 2018; 1:47 PM
Date and Time of Each Attempt to Direct Flowback to a Separator	October 23, 2018; 1:47 PM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	October 23, 2018; 7:05 PM
Date and Time of Each Attempt to Direct Flowback to a Separator	October 23, 2018; 7:05 PM
Date and Time Well was Shut in and Flowback Equipment Permanently Disconnected OR Date and Time of Startup of Production	October 25, 2018; 7:00 AM
Duration of Flowback (hr)	824.38
Duration of Recovery (hr)[2]	806.55
Type of Recovery[3]	Routed to the gas flow line
Description of Why All the Types of Recovery Are Technically Infeasible[4]	NA
If Recovery is Technically Infeasible and Exception[5] from Combustion Claimed	NA
Exception Claimed	NA
Start Date	NA
End Date	NA
Reason for exception	NA
Duration of Combustion (hr)	0
Duration of Venting (hr)	0
Reason for Venting in Lieu of Capture or Combustion	NA
Separator Located Onsite During Entire Flowback Period	Yes

Notes

[1] Initial Flowback is the period which begins at the onset of flowback and ends when it is technically feasible for a separator to function.

[2] Not required for wildcat well, delineation well, non-wildcat low pressure well, or non-delineation low pressure well.

[3] Types of recovery:
Routed to the gas flow line or collection system,
Re-injected into the well or another well,
Used as an onsite fuel source, or
Used for another useful purpose that a purchased fuel or raw material would serve.

[4] Examples of information to be included in description of recovery being technically infeasible:
Name and location of the nearest gathering line and technical considerations preventing routing to this line,
Capture, re-injection, and reuse technologies considered and aspects of gas or equipment preventing use as a fuel onsite, and
Technical considerations preventing use of recovered gas for other useful purpose that a purchased fuel or raw material would serve.

[5] Types of exceptions:
Conditions that may result in a fire hazard or explosion, or
Where high heat emissions may negatively impact tundra, permafrost, or waterways.

Civil & Environmental Consultants, Inc.

SUBJECT	Completion Operations - LHS	PROJECT NO.	181-983
PROJECT	HG Energy II Appalachia, LLC - Sand Hill 27	PAGE	3
	Marshall County, West Virginia		
MADE BY:	JM DATE: 9/24/2019 CHECKED BY: AD	DATE:	10/30/2019

Well Name	SHL 27 LHS
API Well Number	47-051-01959-00-00
County and State	Marshall, WV
District	Webster
Well Location	39.958320, -80.585649
Reporting Period	September 20, 2018, - October 25, 2018
Date and Time of Flowback Onset	September 20, 2018; 4:48 PM
Date and Time of Each Attempt to Direct Flowback to a Separator	September 21, 2018; 2:45 PM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	September 25, 2018; 4:00 AM
Date and Time of Each Attempt to Direct Flowback to a Separator	September 25, 2018; 4:00 AM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	September 30, 2018; 8:00 AM
Date and Time of Each Attempt to Direct Flowback to a Separator	September 30, 2018; 8:00 AM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	October 2, 2018; 5:00 AM
Date and Time of Each Attempt to Direct Flowback to a Separator	October 2, 2018; 5:00 AM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	October 18, 2018; 1:35 PM
Date and Time of Each Attempt to Direct Flowback to a Separator	October 18, 2018; 1:35 PM
Date and Time of Each Occurrence of Returning to Initial Flowback[1]	October 23, 2018; 2:55 PM
Date and Time of Each Attempt to Direct Flowback to a Separator	October 23, 2018; 2:55 PM
Date and Time Well was Shut in and Flowback Equipment Permanently Disconnected OR Date and Time of Startup of Production	October 25, 2018; 7:00 AM
Duration of Flowback (hr)	826.28
Duration of Recovery (hr)[2]	804.33
Type of Recovery[3]	Routed to the gas flow line
Description of Why All the Types of Recovery Are Technically Infeasible[4]	NA
If Recovery is Technically Infeasible and Exception[5] from Combustion Claimed	NA
Exception Claimed	NA
Start Date	NA
End Date	NA
Reason for exception	NA
Duration of Combustion (hr)	0
Duration of Venting (hr)	0
Reason for Venting in Lieu of Capture or Combustion	NA
Separator Located Onsite During Entire Flowback Period	Yes

Notes

[1] Initial Flowback is the period which begins at the onset of flowback and ends when it is technically feasible for a separator to function.

[2] Not required for wildcat well, delineation well, non-wildcat low pressure well, or non-delineation low pressure well.

[3] Types of recovery:
Routed to the gas flow line or collection system,
Re-injected into the well or another well,
Used as an onsite fuel source, or
Used for another useful purpose that a purchased fuel or raw material would serve.

[4] Examples of information to be included in description of recovery being technically infeasible:
Name and location of the nearest gathering line and technical considerations preventing routing to this line,
Capture, re-injection, and reuse technologies considered and aspects of gas or equipment preventing use as a fuel onsite, and
Technical considerations preventing use of recovered gas for other useful purpose that a purchased fuel or raw material would serve.

[5] Types of exceptions:
Conditions that may result in a fire hazard or explosion, or
Where high heat emissions may negatively impact tundra, permafrost, or waterways.